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## The Effects Of Potential Business Managers' Risk Tolerance Level On Entrepreneurship In Emerging Markets

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**Abstract** Entrepreneurs in emerging markets may not have much information about the financial and market conditions of the economy and this may lead them not to be an entrepreneur or have low financial risk tolerance level at the time when they start a new business. This study aims to investigate the correlation between the financial risk taking behavior of the people and the level of tendencies as entrepreneurship, managerial and stock market decisions in the emerging economic conditions.

The Business Administration undergraduate students graduating from the public and private universities in Skopje/Macedonia are chosen as the sample of this study. By analyzing risk taking propensity and tolerance for ambiguity degree of the respondents, it is aimed to provide insight into entrepreneurship education, as to which entrepreneurial characteristics can be developed. Query dates' will be analyzed by using Pearson correlation and ANOVA for explaining risk tolerance and entrepreneurship behaviors related to emerging markets conditions.

**Keywords:** Risk tolerance, entrepreneurship, emerging markets.

### Introduction

In a period of globalization and modernization of the economy and information, societies' development, the tendency for business development is tightly connected with the use of the latest technology, by investing in the human resources development with the most sophisticated working methods. The primary development factor in the modern working conditions is knowledge-based economy enable of keeping economic development with more and better workplace and bigger social cohesion.

Managing an investment firm (whether it is a financial investment firm or a physical investment firm) involves selecting people with a high level of skill at counseling investors. Such a skill involves sensitivity to how the investor thinks about and assesses risks, a task which is difficult if the advisor and the investor have different values and risk attitudes. It might be argued that the problem is solved if everyone concerned acts in a rational manner. However, rational decision making is an ideal that few human decision makers could experience (Sjoberg & Engelberg, 2009)

□ Business development starts with the educational system. In almost all transitional economies, the education reform is emphasized on every level, starting with the preschool, the primary, the secondary and the university education. Within these reforms, people are becoming more conscious about spreading of the culture influence in the society, and the attitude towards work, business and entrepreneurship. With the promotion of the entrepreneurship attitudes and skills there is a great possibility of students' improvement as well as improvement of the whole society.

Entrepreneurship is the main feature which can be very useful for all work and life activities. The education goal is to nurture the young people's qualities, through the enforcement of creativity, initiative, responsibility, independence and ability to take a risk. Encouraging the enterprise spirit is a key to achieve this goal. Education can help a lot in the entrepreneurship's culture development of young people and make them be aware of the entrepreneurship, developing their abilities and skills which will help them in their professional career as well as in life by becoming responsible and active members of the society. The university education is an essential pillar of the social and economic development of every country. The university education presents the most significant priority of the emerging countries, considering the importance of the contribution of the staff with university education to the economic development of the country and to the culture of the population.

In the university education of European countries, the entrepreneurship teaching is focused on creating new businesses. At the level of tertiary education, "entrepreneurship teaching provide the students with specific training on how to start and run a business, including the capacity to draft a real business plan and the skills associated with methods of identifying and assessing business opportunities. Also, it will encourage and support new business ideas (for instance by providing special loans, business facilities, mentorship, etc.) By this way researched projects can be put into practice.

### **Development of the students' entrepreneurship skills**

It is necessary for all young people to possess entrepreneurial skills, to advance their creativity, to improve their talent and in that way to become more competent in achieving their professional ambitions and to be allowed to consider the creation of business as a possible option in their career. In this way they are becoming more prepared to conduct with innovative projects.

The education system has to have an assignment to:

- Raise the consciousness of the youth strengthening their entrepreneurial spirit,
- Put the world of business closer to them,
- Wipe out the barriers between the educational system and the business,
- Encourage the development of their entrepreneurial skills simultaneously with the development of their education,
- Enrich their experience for entrepreneurship,
- Organize projects for the development of the entrepreneurship with the cooperation of the local companies, in which all students will be included,
- Give young people a chance individually to take part in the creation of the small business,
- Create an open atmosphere for study in which the students will develop the necessary confidence and ability for taking risks.

Young people need somebody to make them believe in their own creative forces. They should be educated to realize and use the local resources as a foundation for the creative values. With their self-assurance, young people can become more productive, can improve the workplaces and can take responsibility in their local community.

Education plays an important role in the development of the attitudes, working habits and activities which improve the abilities for cooperation, creativity and innovation of young people, i.e. it is capable of stimulating the development of their entrepreneurial activities.

The educational institutions and the government should support the net of teachers and trainers for entrepreneurship in order to encourage the mobility of teachers and the cooperation between the educational sector and the business and which will help them build a road of exchanging competence and knowledge. In this content trainings, seminars, courses and studies for entrepreneurship should be arranged.

This will increase the participation of the professionals from this area in the educational process, because in that way more direct, approachable and larger access of the students (as potential managers) to the world of business will be achieved, their entrepreneurial attitudes and skills will be developed and the realization of their entrepreneurial ideas will be encouraged and stimulated, which will directly be reflected in the development of the economy and the whole society.

Financial risk tolerance, defined as the maximum amount of uncertainty that someone is willing to accept when making a financial decision, reaches into almost every part of economic and social life. Although the importance of assessing financial risk tolerance is well documented, in practice the assessment process tends to be very difficult due to the subjective nature of risk taking (Grable, 2000).

Risk tolerance must be measured simply because it is an aspect of “utility” and maximizing the expected utility is considered to be the ultimate goal in any financial activity. If investment decisions are based on Expected Monetary Value (EMV) alone, the decision is driven only by the nature of the investment and the optimal choice would be the same for all potential investors. If the investment decision is based on Expected Utility, the attitude and risk tolerances of the investor are incorporated too. Thus, the optimal choices are different for each investor because the utility functions are different. Once the investment advisor understands some aspects of the client’s utility function and how risk averse is, this information can be incorporated in the selection of the right portfolio. (Ardehali, Paradi, Asmild, 2005).

There is some evidence that the common factor reflects changes in investors’ tolerance for risk. Although it is impossible to ascribe precise economic meaning to the common factor, the high correlation between it and high-frequency measures of risk tolerance suggests that the common variation in emerging market debt spreads is largely explained by changes in attitudes towards risk within the international investment community. Furthermore, to the extent that changes in investor risk tolerance and expectations of future growth prospects are procyclical, this hypothesis is supported by the negative correlation between the factor and US interest rate variables. (McGuire & Schrijvers 2003)

Carducci and Wong (1998), reported the findings from a study that attempted to identify personality factors that determine financial risk taking in everyday money matters. They concluded that persons fitting the Type A personality trait tended to take greater risks than those more closely aligned with the Type B personality profile. They suggested that socioeconomic factors, such as income, might have played a part in explaining their findings. Specifically, it was determined that persons identified as Type A personalities were likely to maximize their achievements through additional risk taking in the attainment of increased incomes, higher status occupations, and increased educational attainment. The results of research conducted by investigators such as Carducci and Wong (1998) and Grable and Joo (1997) suggests that the investigation of factors that determine financial risk taking and risk tolerance can be expanded beyond the testing of purely psychological factors. Specifically, demographic, socioeconomic, and attitudinal characteristics need to be examined to determine how these factors influence a person's willingness to take financial risks in "everyday money matters." A review of current risk-taking and risk-tolerance research indicates that factors such gender, age, marital status, occupation, income, and expectations may influence a person's level of risk taking in everyday money matters. Increasing levels of risk tolerance also have been associated with being single. Increased levels of income and educational attainment also are considered to be associated with increased levels of risk tolerance.

Researchers and practitioners have suggested that demographic, socioeconomic, and attitudinal factors can be used to differentiate individuals into risk-tolerance or risk-taking categories. While there are research data to support these beliefs, there is a need to examine these assumed relationships in more detail (Sung & Hanna, 1996). Froot (2003) proposed a methodology for measuring investor confidence by decomposing investor demand for international assets, examination of the cross-section of international portfolio holdings and flows of international institutional investors over time. It was observed shifts in aggregate investor demand into expected risk and return, wealth and risk tolerance components. The risk tolerance component turns out to account for a substantial portion of variation in portfolio holdings and a smaller but meaningful amount of variation in equity returns. In addition, it appears to be informative about future returns. It is argued by a number of researchers that the low correlation between emerging equity returns and developed market returns. In an active portfolio strategy, this means that the opportunity set has become larger, higher expected returns can be gained at lower volatility. (Harvey, 1994)

## **Analysis of risk tolerance of potential businesses managers**

Risk is the potential for realizing low returns or even losing money, possibly preventing you from meeting important objectives. But many financial advisers and other experts say that these days investors aren’t taking the idea of risk as seriously as they should, and they are overexposing themselves to stocks. The market has been so good for years that investors no longer believe there’s risk in investing, till 2008-2009 financial fluctuations. So before the market goes down and stays down, be sure that you understand your tolerance for risk and that your portfolio is designed to match it. Assessing your risk tolerance, however, can be tricky. You must consider not only how much risk you can afford to take but also how much risk you can stand to take (Bodie, Kane, Marcus, 2003), .

Determining how much risk you can stand your temperamental tolerance for risk is more difficult. It isn’t quantifiable. To that end, many financial advisers, brokerage firms and mutual-fund companies have created risk quizzes to help people determine whether they are conservative, moderate or aggressive investors. Some firms that offer such quizzes include Merrill Lynch, T. Rowe Price Associates Inc., Baltimore, Zurich Group Inc.’s Scudder Kemper Investments Inc., New York, and Vanguard Group in Malvern, Pa. typically; risk questionnaires include

seven to 10 questions about a person's investing experience, financial security and tendency to make risky or conservative choices.

The benefit of the questionnaires is that they are an objective resource people can use to get at least a rough idea of their risk tolerance. Many experts warn, however, that the questionnaires should be used simply as a first step to assessing risk tolerance. The second step, many experts agree, is to ask yourself some difficult questions, such as: the questions that related on "How much you can stand to lose over the long term?"

In order to analyze of potential business managers which in our study those are 4th and 3rd class business administration students on public and state universities in Skopje. Risk tolerance level quarry that used on the Wall Street Journal 1998 by Dow Jones & Company in USA. Quarry has totally 16 questions. Each question has 3 answers. (a,b,c). Each answers related on numbers that a is 1, b is 2, c is 3. at the end of the questionnaire, to score the risk tolerance, ad up the number of answers that given by questioners each categories' a-c, than multiply by the shown table. Because each question answers 1 to 3 risk choices increases and 1 has the conservative answer on the other hand 3 has the highest risk taker choice.

Total Score Number	
(a) answers	x 1 = points
(b) answers	x 2 = points
(c) answers	x 3 = points

**Table1:** Calculation of total score number for risk tolerance

The score is total of all answers with related rates. The total number had been categorized as fallows which were referred on Dow Jones Company questionnaire (1998).

Total Score Number	Questioner Risk Tolerance
Between 16- 26 points	Conservative Investor
Between 27-37 points	Moderate Investor
Between 38-48 points	Aggressive Investor

**Table 2:** Questioner risk tolerance according to total score number

In this paper we use 252 observations on total 16 questions. We had analyzed the total score numbers which were mentioned that questionnaire. "Conservative, moderate and aggressive investor, (1,2,3)" for analysis of variance. We analyzed the potential business managers' opinions' who were undergraduate students that study in transition economy in the Balkan region.

Affects of choices of risk tolerance at entrepreneurship capacity relation on their gender, marital status, age, class, working condition, average monthly income (euro), and working status. To analyze age we use the scales (17-19, 20-22, 23-25,26 and upper), on working condition (yes or no), status of working (no, part time, full time), on average monthly income as Euro (100 and below, 101-200, 201-300,301-400, 401 and above).

On the regression analyze as an input Y range uses as total score number on risk tolerance, and as an input X range was demographic conditions selected as mentioned above.

Regression Statistics	
Multiple R	0,688986
R Square	0,474701
Adjusted R Square	0,463758
Standard Error	3,389823
Observations	252

**Table 3:** Regression statistics results

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	7	3489,055	498,4364	43,37661	1,9E-43
Residual	336	3860,943	11,4909		
Total	343	7349,997			

**Table 4:** ANOVA results

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	29,40065	2,046517	14,36619	8,08E-37	25,37506	33,42625	25,37506	33,42625
Gender	-3,61627	0,467007	-7,7435	1,15E-13	-4,53489	-2,69764	-4,53489	-2,69764
Marital Status	-0,19815	0,711239	-0,2786	0,780721	-1,5972	1,200889	-1,5972	1,200889
Age	0,797532	0,409961	1,945386	0,052562	-0,00888	1,603946	-0,00888	1,603946
Class	0,150978	0,370683	0,407296	0,68405	-0,57817	0,880129	-0,57817	0,880129
Working	-3,27562	0,544074	-6,02055	4,55E-09	-4,34584	-2,2054	-4,34584	-2,2054
Average Monthly Income (Euro)	4,758799	0,318106	14,95979	3,91E-39	4,133069	5,384529	4,133069	5,384529
Status of working	1,471514	1,020217	1,442355	0,150134	-0,5353	3,478331	-0,5353	3,478331

**Table5:** Standard error, t-stat and p values.

According to analyze of each demographic condition on total risk score, we used Pearson correlation formula:

r <sub>1</sub>	Total risk tolerance score	1
r <sub>2</sub>	Gender	-0,23113
r <sub>3</sub>	Marital Status	-0,08375
r <sub>4</sub>	Age	0,169817
r <sub>5</sub>	Class	0,003724
r <sub>6</sub>	Working condition	-0,12903
r <sub>7</sub>	Average Monthly Income (Euro)	0,402851
r <sub>8</sub>	Status of working	-0,055775

**Table 6:** Pearson correlation table

Pearson product-moment correlation coefficient (sometimes referred to as the PMCC, and typically denoted by  $r$ ) is a measure of the correlation (linear dependence) between two variables  $X$  and  $Y$ , giving a value between  $+1$  and  $-1$  inclusive. It is widely used in the sciences as a measure of the strength of linear dependence between two variables. It was developed by Karl Pearson from a similar but slightly different idea introduced by Francis Galton in the 1880s (Stigler, Stephen M, 1989). The correlation coefficient is sometimes called "Pearson's  $r$ ." which in this study total risk tolerance score numbers ( $r_1$ ), Gender ( $r_2$ ), Marital Status ( $r_3$ ), Age ( $r_4$ ), Class ( $r_5$ ), Working condition ( $r_6$ ), Average Monthly Income (Euro) ( $r_7$ ), Status of working ( $r_8$ ).

## Conclusion

The training for entrepreneurship must continue through life. It must cover the full range of knowledge: knowing how to behave, how to handle knowledge, how to learn, knowhow, and how to innovate, do good and lead others. The training system must be one which will encourage the spirit of entrepreneurship and innovation. This will enable us to create an economy which is truly working for the people. As individual entrepreneurs, the students should follow their wishes, they should be able to use the possibilities for their achievement and believe in the possible success.

Test statistics were generated for the purpose of measuring the significance of the demographic, socioeconomic, and attitudinal factors in differentiating between levels of risk tolerance. ANOVA results indicated that gender, age, working status, income and education.

It was concluded that (a) males were more risk tolerant than females, (b) older respondents were more risk tolerant than younger respondents, (c) married respondents were more risk tolerant than single respondents, (d) respondents with higher incomes were more risk tolerant than those with lower incomes. In all but two cases, the pattern of association between socioeconomic factors and financial risk tolerance was as expected. The association

between age and risk tolerance is positive and marital status and risk tolerance is negative. But in either case, these two results correlation values close to zero. The highest positive Pearson correlation value on total risk tolerance score is found on average monthly income as Euro. The research has multiple R 0.688986, R square 0.4747 and which has 3.3898 standard error value.

As the average monthly income increases, respondents` risk tolerance level becomes moderate investor rather than conservative investor. With this demographic conditions of business administration students in Skopje hasn't got the total score number refer to aggressive investor. Working conditions and status of working as a part time and full time becomes negatively correlated on total risk score numbers.

## References

- Ardehali P.H., Paradi J.C., Asmild M. (2005), "Assessing Financial Risk Tolerance Of Portfolio Investors Using Data Envelopment Analysis", *International Journal of Information Technology & Decision Making* Vol. 4, No. 3 491-519
- Bodie Zvi, Kane Alex, Marcus Alan J. , (2003), *Investments* 5th edition, The McGraw-Hill , USA.
- Carducci, B. J., & Wong, A. S. (1998). Type A and risk taking in everyday money matters. *Journal of Business and Psychology*, 12, 355-359
- Froot A.K. (2003) "The Risk Tolerance Of International Investors", National Bureau of Economic Research Working Paper No, W10157, December
- Grable, J. E., & Joo, S. H. (1997). "Determinants of risk preference: Implications for family and consumer science professionals. *Family Economics and Resource Management Biennial*, 2, 19-24
- Grable J.E. (2000) "Financial Risk Tolerance and Additional Factors That Affect Risk Taking In Everyday Money Matters", *The Journal of Business and Psychology*, Vol 14, No 4 625-630
- Harvey C.R., (1994) "Portfolio Enhancement Using Emerging Markets and Conditioning Information", National Bureau of Economic Research Working Paper No, W4623
- McGuire P & Schrijvers M.A. "Common Factors in Emerging Market Spreads", *BIS Quarterly Review*, December, 65-78
- Sjoberg L, Engelberg E,(2009) "Attitudes to Economic Risk Taking, Sensation Seeking and Values of Business Students Specializing in Finance", *The Journal of Behavioral Finance*, 10 33-43
- Sung, J., & Hanna, S. (1996). Factors related to risk-tolerance. *Financial Counseling and Planning*, 7, 11-20
- Stigler, Stephen M.,1989. "Francis Galton's Account of the Invention of Correlation". *Statistical Science* 4, pp2.